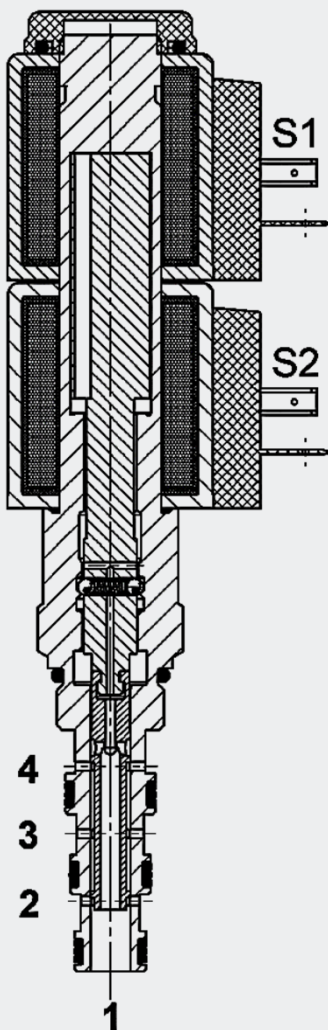


up to 17 l/min  
up to 350 bar

## 4/2 directional valve WK08X-01R

solenoid-operated, with detent function  
spool type, direct-acting  
UNF Cartridge – 350 bar

### FUNCTION



### PRODUCT ADVANTAGES

- Valve with holding function via integrated detent
- Holds the current switching position in the event of power failure
- Patented operating principle
- Exposed surfaces zinc-nickel plated for increased corrosion protection (1,000 h salt spray test)

### FUNCTION DESCRIPTION

The 4/2 directional valve is a direct-acting, spool type valve with an integrated detent function. When de-energised, the valve holds the current switching position.

When energised, the valve changes to the appropriate switching position. Even when current is no longer applied to the coil, the valve remains in this switching position. The valve only changes to the other switching position when current is applied to the opposite coil. Current cannot be applied to both coils at the same time.

When coil S1 is energised, there is free flow from port 2 to 1 and from port 3 to 4.

When coil S2 is energised, there is free flow from port 3 to 2 and from port 4 to 1.

The detent function primarily serves to hold the current switching position in the event of power failure at the coil. In normal operation, this should be constantly supplied with power. This increases the functional safety.

#### Note

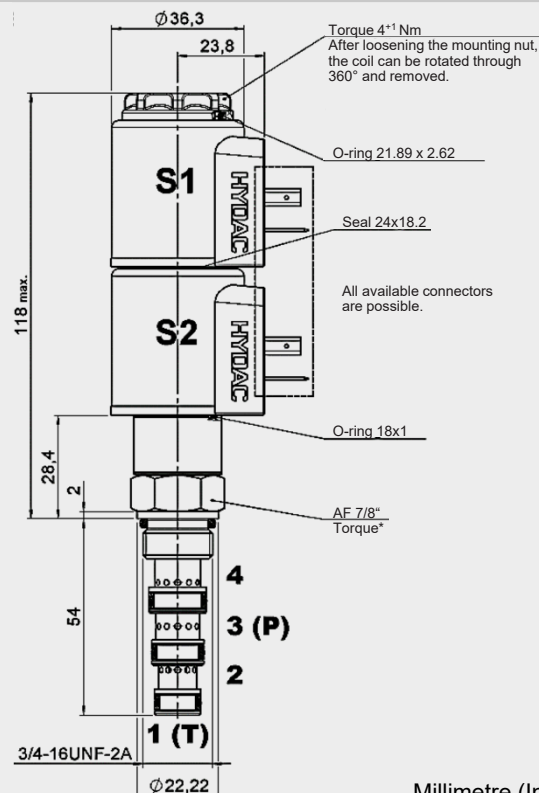
Port 3 is primarily to be connected to the pressure supply and port 1 is to be used as a tank port. The relevant flow directions must be adhered to. High pressure pulses ( $p_{max} > 10$  bar,  $t_{max} < 10$  ms) with a low counter pressure at port 1 or a high flexibility of the pressure level at port 4 is not permitted.

## SPECIFICATIONS\*

Operating pressure	max. 350 bar
Flow rate	max. 17 l/min
Internal leakage	approx. 50 cm <sup>3</sup> /min at 100 bar and 32 cSt
Media operating temperature range	NBR: min. -20 °C to max. +100 °C FKM: min. -20 °C to max. +120 °C
Ambient temperature range	NBR: min. -20 °C to max. + 60 °C FKM: min. -20 °C to max. + 60 °C
Operating fluid	Hydraulic oil according to DIN 51524 Part 1, 2 and 3
Viscosity range	min. 10 mm <sup>2</sup> /s to max. 420 mm <sup>2</sup> /s
Filtration (to ISO 4406)	p < 210 bar: min. class 20/18/15 p > 210 bar: min. class 19/17/14
MTTFd	150 – 1200 years, measurement according to DIN EN ISO 13849-1
Installation	No orientation restrictions, take note of the direction of acceleration if necessary
Materials	Valve body: Steel Piston: Hardened and ground steel Seals: NBR (standard) FKM Back-up rings: PTFE Coil: Steel / polyamide
Cavity	FC08-4
Weight	0.68 kg
<b>Electrical data</b>	
Type of voltage	<u>DC</u> : DC solenoid <u>AC</u> : AC solenoid with rectifier integrated into the coil
Current draw at 20°C	1.5 A at 12 V DC
Voltage tolerance	±15% of the nominal voltage
Coil duty rating	Continuous up to max. 115 % of the nominal voltage at 60 °C ambient temperature
Max. permitted acceleration in axial direction	25 g (245.3 m/s <sup>2</sup> ) at pulse width 6 ms 20 g (196.2 m/s <sup>2</sup> ) at pulse width 11 ms Note: These details apply to the de-energised state. With high flow rates, the max. permitted acceleration can be reduced due to the flow forces.
Coil type	40-1836

\* see "Conditions and Instructions for Valves" in brochure 53.000

## DIMENSIONS

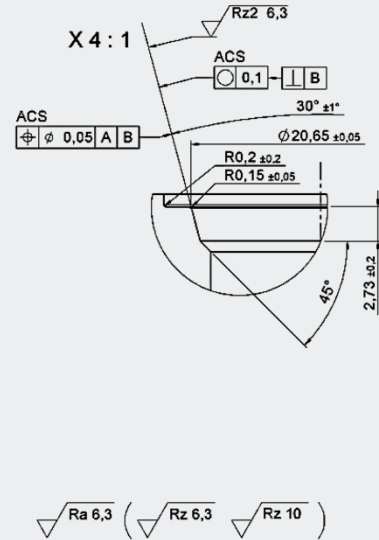
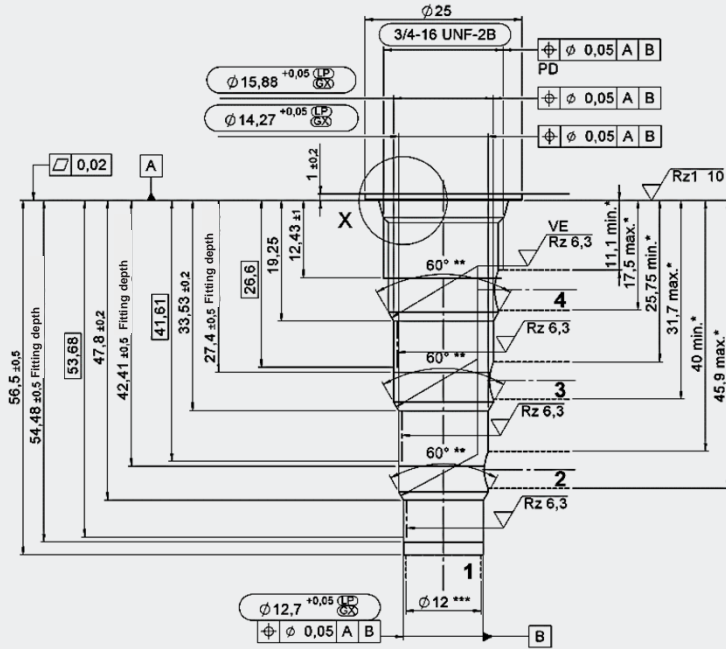


\*Torque:  
Steel manifold (tensile strength > 360 N/mm<sup>2</sup>): 33 Nm  
Aluminium manifold (tensile strength > 330 N/mm<sup>2</sup>): 30 Nm  
(With torque tool in acc. with DIN EN ISO 6789, tool type II class A or B)  
For more information see "Conditions and Instructions for Valves" in brochure 53.000

Millimetre (Inch)  
Subject to technical modifications

# CAVITY

FC08-4 UNF



VE = Visual examination  
 \* Permitted drilling zone (for manifold design)  
 \*\* Sharp edges should be avoided by rounding to a radius of 0.1 mm to 0.2 mm  
 \*\*\* Largest pre-drilling diameter (nominal tool diameter)

Millimetre (inch)  
 Subject to technical modifications

## MODEL CODE

**WK08X - 01 R - C - N - 24 DG**

### Basic model

4/2 directional valve, UNF

### Type

01 = standard

### Detent function

R = with detent function

### Body and ports

C = cartridge only

### Sealing material

N = NBR (standard)  
 V = FKM

### Coil voltage

#### DC voltages

12 = 12 V DC  
 24 = 24 V DC

#### AC voltages (bridge rectifier built into the coil)

115 = 115 V AC  
 230 = 230 V AC

### Coil connectors (type 40-1836)\*

**DC:** DG = DIN connector design A to EN 175301-803

- DK = KOSTAL threaded connection M27x1
- DL = 2 flying leads, 457 mm long; 0.75 mm<sup>2</sup>
- DN = Deutsch connector, 2-pole, axial
- DT = AMP Junior Timer, 2-pole, radial

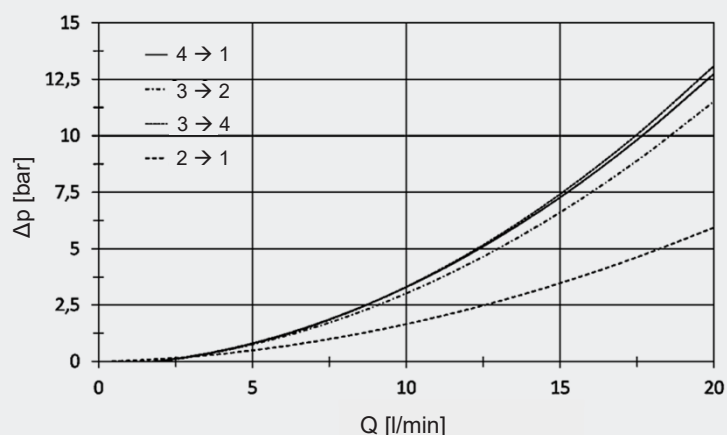
**AC:** AG = DIN connector design A to EN 175301-803

\*see "Solenoid coils for directional valves" in brochure 5.207

## TYPICAL PERFORMANCE

Measured at 34 mm<sup>2</sup>/s and T<sub>oil</sub> = 46 °C

### Pressure loss



## MATERIAL OVERVIEW

### Standard models

Model code	Part no.
WK08X-01R-C-N-0	3883259
WK08X-01R-C-N-12DT01	3816513

Other versions on request

### Spare parts, seal kits

Code	Material	Part no.
FS UNF 08/N	NBR	3651385
FS UNF 08/V	FKM	3651356

### Accessories, standard in-line bodies

Code	Material	Ports	Pressure	Part no.
FH084-SB3	Steel, zinc-plated	G3/8"	350 bar	563383
FH084-AB3	Aluminium, anodised	G3/8"	210 bar	3011407

### Accessories, form tools for cavity

Tool	Part no.
Countersink	175646
Reamer	175647

## NOTE

The information in this brochure relates to the operating conditions and applications described.  
For applications or operating conditions not described, please contact the relevant technical department.  
Subject to technical modifications.